

The British OPV3 Project



In July 1984, the UK Ministry of Defence went out for consultative submissions in order that a staff target could be formulated in respect of the projected OPV3 program. While the RN is known to be no protagonist of the two-tier fleet, it equally cannot afford, particularly in view of Treasury stringencies, to ignore the fact that three or four effective continental-shelf vessels could be acquired for the cost of a single Type 22 or Type 23 frigate, releasing the more sophisticated warships for more appropriate tasks.

The RN's OPV1 (*Island*) class proved to be perhaps too close to the trawler from which the design was generated — small, over-lively in a sea-way, lacking the speed to overhaul a modern fishing vessel and without the facilities to operate a helicopter. The lesson was learnt, however, and the *Castle*-class OPV2s which followed

were considerably larger and with a greater naval capability. Their seakeeping qualities represented a marked improvement and have been proved as far afield as the Falkland Islands. The *Peacock* class, built for patrol operations in Hong Kong waters, are in essence OPVs but with a high naval rating in relation to their size. They are not for consideration when studying OPV3 proposals.

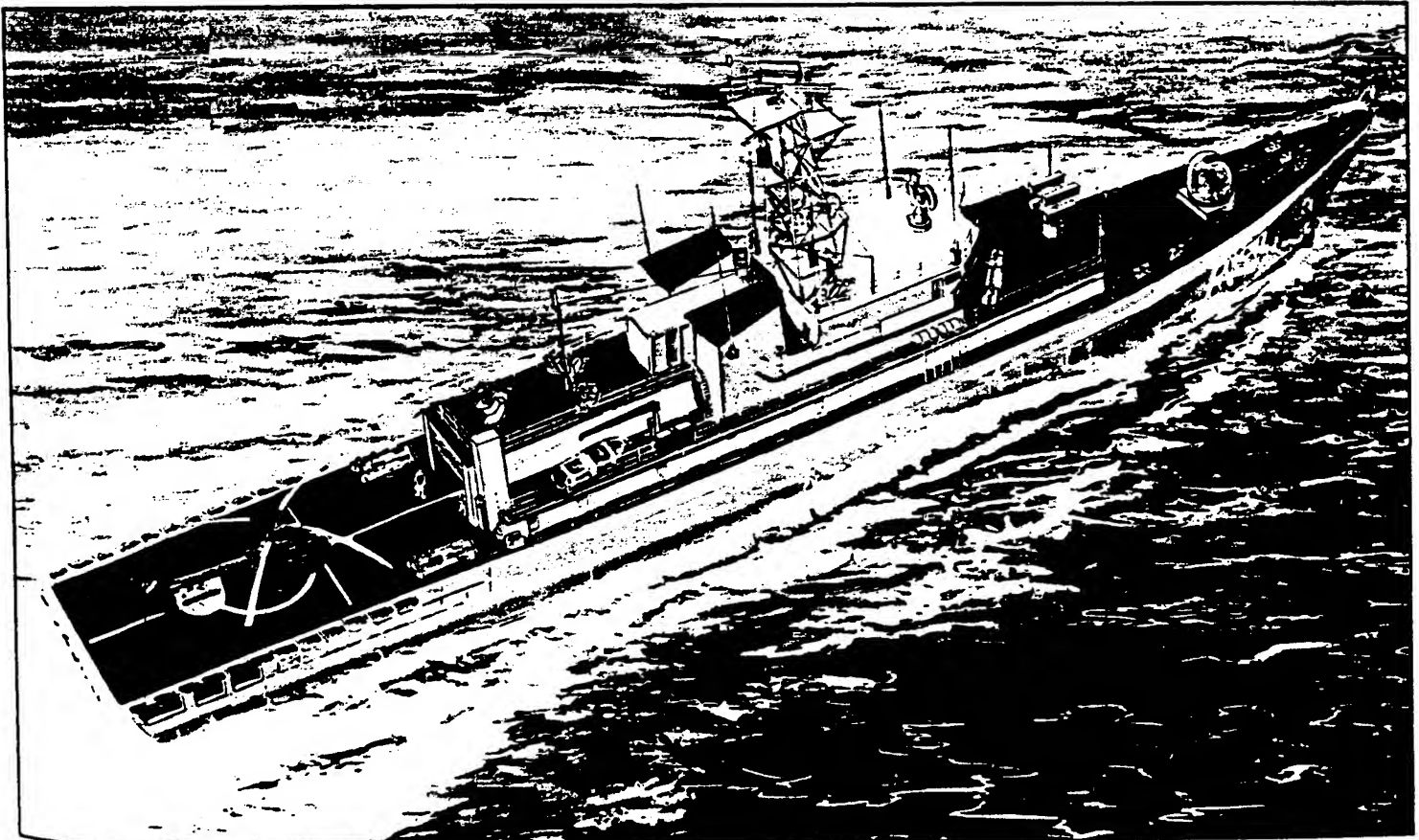
It is believed that, in calling for submissions in respect of the OPV3, the MoD laid down few firm requirements other than minimum speed and the related items of cost (about £25m) and manning limitations, leaving even the operational capabilities to be proposed by the potential builder. It is of note that, on the matter of price, the later OPV1s (1979) are reported to have cost £3.9m and OPV2s (1981) £10m. Those interested made their presentations in October 1984.

Understandably, not a lot of information is at present available concerning the various submissions. It is of particular interest, however, that builders Hall Russell, obviously front runners having

been responsible for all the previous OPV classes, are teamed with British Aerospace, Plessey UK and CAP Scientific. It is believed that this is the first time that a consortium has entered the bidding for an RN ship contract, and the grouping is strong. Vosper Thornycroft is also in the lists with a design which is probably nearer the warship end of the spectrum. Designers Thornycroft Giles are in the bidding, although they are without a UK shipyard link and now seemingly lacking the support of British Aerospace, which was teamed with them in their S.90 frigate. It is probable that their proposal is orientated largely towards the geometry of their particular hull form. A late contender was Airship Industries, teamed with Ferranti, with a novel airborne solution.

It will be appreciated that there is a certain piquancy in bids by shipyards as, with privatization looming, it is not inconceivable that some managements could change before any OPV3 order is placed. An interesting sidelight of this is that Frederikshavn Shipyard, a ship-

▼ A heavily armed version of the *Skeandhu* design developed by a consortium comprising shipbuilder Hall Russell and equipment suppliers British Aerospace, Plessey and CAP Scientific. Note the container between the funnels.



building memb Approved For Release 2010/03/30 : CIA-RDP88T00565R000200280008-2
group and licensee for the construction of the Thornycroft Giles Osprey series of hulls, is known to have inspected the Hall Russell shipyard as "independent consultants acting for a potential British purchaser".

Hall Russell's proposal

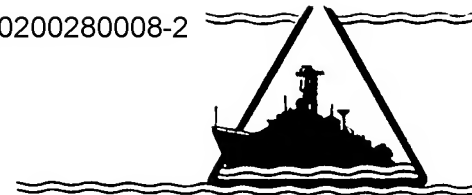
The Hall Russell consortium's design has been named *Skeandhu* (a Scottish dagger). Based on a platform developed from the OPV2 hull, the design embraces peacetime, cold-war and "hot"-war roles with shallow-water anti-submarine warfare emerging as the main priority. With an eye on the potential export market, a low-cost basic patrol version has been proposed, together with an ASW/AAW variant, able to defend itself against stronger air attack, and an up-market arrangement in which an anti-surface component has been added to the ASW/AAW layout to enable long-range threats to be covered. In all these proposals, systems and equipment of British manufacture have been specified for the RN OPV3, where available, but alternatives could be fitted for export.

With continental-shelf ASW as the priority role, considerable thought was given to the choice of sonar, which would, of course, be of the active type. It is believed that variable-depth sonar was discarded because of low cost-effectiveness in the OPV3's foreseen role, coupled with the additional cost of reducing ship noise to the required level. The Type 2050 hull sonar is also understood to have been passed over because of its relatively high space requirement and anticipated cost, although it could be accommodated if necessary. This left the Plessey PMS-44 and Ferranti FMS-21, with the former having the edge because of its present development status. Moreover, the PMS-44 could be updated to Type 2016 standard. In addition, space has been allocated for a small-ship continental-shelf active towed array, currently under development. The addition

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would greatly enhance the vessel's ASW capability.

The sonar will be backed up by two triple-tube PMW-49A (STWS Mk2 derivative) launchers for *Stingray* ASW torpedoes. In addition, the OPV3 will be equipped to operate a *Sea Lynx* helicopter (the hangar is sized for this aircraft) and the pad will be able to accept a *Sea King* or EH.101 helicopter and will be strong enough to accept a *Sea Harrier* VTOL aircraft. Fixed-fin stabilisers will be fitted to ensure maximum aircraft operating capabilities in difficult sea conditions.

The conventional weapon fit will comprise an OTO Melara 76/62 Mod6 automatic dual-purpose gun, plus an LS-30B 30mm gun mount (for close-range work) carried on the super-



separate engine rooms, the arrangement allowing ample space for expansion of the system if a higher speed is required.

It is understood that, in the event of an order being placed for *Skeandhu* at the beginning of 1986, the first ship could be delivered in the summer of 1988.

An airborne alternative

Airship Industries, encouraged by the successful trials of their *Skyship 600* by

British OPVs

	OPV1 (Island class)	OPV2 (Castle class)	Peacock class	OPV3 (Hall Russell proposal)
Length wl/oa (m)	53.64/61.10	75.00/81.00	60.00/62.00	84.00/-
Beam (m)	11.00	11.50	10.00	13.00
Depth (m)	-	7.30	5.50	7.95
Draught (m)	4.27	3.42	2.72	3.62
Displacement, full load (t)	1,260	1,450	622	1,700
Installed power (bhp/kW) (single screw)	2 x 2,190/1,633	2 x 2,820/2,100	2 x 7,094/5,290	2 x 7,200/5,300
Speed, max. trials (kt)	16.5	20 (mcfr)	28	24
Range (n.m.)	11,000 at 12kt	10,000 at 12kt	2,500 at 7kt	6,000 at 7kt
Complement	28	50 + 25	44	77 + 12

structure aft. In the more sophisticated versions, the *Lightweight Seawolf* PDMS and *Harpoon* SSM system can be mounted. The command system will be the Plessey *Nautis P*, developed from the system on order for the RN's Single-Role Minehunter.

Speed requirements will be met by a simple twin Crossley-Pielstick 18PA6V-280 installation, with each diesel developing 7,200bhp (5,300kW) and turning a controllable-pitch propeller. Main and auxiliary machinery is disposed in two

the French and United States navies, and with support from Ferranti in the weapon-system sector, has put forward proposals to meet the OPV3 requirement.

The airship would have a gas volume of some 70,000m which, depending on the chosen length:diameter ratio, would give an overall length in the 120-140m bracket. Turbo-prop propulsors, vectorable for vertical take-off and landing, would give the vehicle a top speed of some 90kt. Two lightweight diesel engines, geared to a single large-diameter propeller, would give a cruise speed in the 20-45kt range coupled with long endurance. With a gross lift of 73,500kg and an equipped weight of 35,000kg — including furnishings, civil nav aids, communications equipment and navigation radar — the airship would have a disposable load of 38,500kg. Ten days' fuel, at some 650kg/day, would still leave 32,000kg for the crew and mission payload.

Compared with surface vessels, the airship, with the envelope serving as a huge radome for its surveillance-radar antenna, undoubtedly provides a greatly enlarged radar horizon, while its relatively high speed offers a greater flexibility to investigate and prosecute contacts. Trials by the French Navy have shown, it is claimed, that a rigid-inflatable boarding boat, the indispensable tool of the OPV, can be launched and recovered in at least the same weather conditions as those in which the conventional surface vessel.

